

**In the claims:**

1. (currently amended) A sampling instrument comprising:

a first housing comprising a needle arranged for protrusion therefrom, said needle being adapted to draw therethrough a fluid;

a reagent disposed in said first housing in fluid communication with said needle, capable of producing an optically-sensible reaction with a fluid;

an optical sensor disposed in said first housing adapted to sense said optically-sensible reaction;

a first optical waveguide in said first housing connected to said optical sensor and to a first optical connector; and

a processor disposed in a second housing in communication with said optical sensor adapted to process a signal from said optical sensor, said signal being a function of said optically-sensible reaction, wherein said processor comprises a microprocessor and a photodiode, said processor being in communication with said optical sensor by means of an connected to a second optical waveguide disposed in said second housing, said second optical waveguide being connected to a second optical connector which mates with said first optical connector so as to effect optical communication between said processor and said optical sensor, wherein said photodiode is adapted to convert light emission transmitted thereto from said optical waveguide to a current.

2-4. (cancelled)

5. (original) The sampling instrument according to claim 1, wherein said first housing is disposable.

6. (previously amended) The sampling instrument according to claim 1, further comprising a fluid pump in fluid communication with said needle adapted to pump a biological fluid through said needle.

7. (currently amended) The sampling instrument according to claim 4 1, further comprising a fluid pump in fluid communication with said needle adapted to pump a biological fluid through said needle, wherein said fluid pump is disposed in said second housing.

8. (previously amended) The sampling instrument according to claim 1, wherein said first housing further comprises a waste receptacle for storing therein waste products of said optically-sensible reaction.

9. (original) The sampling instrument according to claim 1, wherein said needle is retractable into said first housing.

10. (previously amended) The sampling instrument according to claim 1, further comprising a display in communication with said processor.

11. (cancelled)

12. (original) The sampling instrument according to claim 1, further comprising at least one of a transmitter and a receiver for wireless communication with an external device.

13. (currently amended) The sampling instrument according to claim 4 1, wherein said first and second housings together form an elongate housing.

14. (currently amended) The sampling instrument according to claim 4 1, wherein said second housing is reusable.

15. (new) A sampling instrument comprising:

- a disposable housing comprising a needle arranged for protrusion therefrom, said needle being adapted to draw therethrough a fluid;

- a reagent disposed in said disposable housing in fluid communication with said needle, capable of producing an optically-sensible reaction with a fluid;

- an optical sensor disposed in said disposable housing adapted to sense said optically-sensible reaction;

- a first optical waveguide in said disposable housing connected to said optical sensor and to a first optical connector;

- a processor disposed in a reusable housing in communication with said optical sensor adapted to process a signal from said optical sensor, said signal being a function of said optically-sensible reaction, wherein said processor comprises a microprocessor and a photodiode, said processor being connected to a second optical waveguide disposed in said reusable housing, said second optical waveguide being connected to a second optical connector which mates with said first optical connector so as to effect optical communication between said processor and said optical sensor, wherein said photodiode is adapted to convert light emission transmitted thereto from said optical waveguide to a current; and

- a fluid pump disposed in said reusable housing in fluid communication with said needle adapted to pump a biological fluid through said needle, wherein said disposable housing comprises a waste receptacle for storing therein waste products of said optically-sensible reaction, and a display in communication with said processor.